**Table A.** Management requirements to reduce or prevent adverse effects by Mooreville Ridge Project.

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| Heritage Resources | Heritage Resources will be designated on the ground prior to implementation of all project activities. Protect Heritage Resources that have been identified on the ground with flagging as well as those identified on maps provided by the District Archaeologist. | District Archaeologist, Layout/Contract Specialist, and Sale Administrator |
| Heritage Resources | Management of Heritage Resources: Protect all Heritage Resources with flagged control areas. Utilize directional felling methods as appropriate to protect heritage resources. Buffer zones may be designated to ensure added protection. Sale Administrator, Contract Inspector, and/or Archaeologist will walk all sites with purchaser, contractor, or force account staff prior to start of project activities. | District Archaeologist, Layout/Contract Specialist, and Sale Administrator |
| Heritage Resources | Management of Linear Heritage Resources: Directionally fell trees parallel to or away from linear Heritage Resources (trails, ditches, roads etc.); existing breaches will be used whenever possible; if necessary, new breaches will be designated by the District Archaeologist; and isolated trees inside of linear Heritage Resource features may be felled on a case-by-case basis and with on-the-ground approval of the District Archaeologist. | District Archaeologist, Layout/Contract Specialist, and Sale Administrator |
| Heritage Resources | Guidelines 2.1(a) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.<br>Linear sites (e.g., historic trails, roads, railroad grades, ditches) may be crossed or breached by equipment in areas where their features or characteristics clearly lack historic integrity (i.e., where those portions do not contribute to site eligibility or values).<br>(1) Crossings are not to be made at the points of origin, intersection, or terminus of linear site features.<br>(2) Crossings are to be made perpendicular to linear site features.<br>(3) The number of crossings is to be minimized by project and amongst multiple projects in the same general location.<br>(4) The remainder of the linear site is to be avoided, and traffic is to be clearly routed through designated crossings. | District Archaeologist, layout/Contract Specialist, and Sale Administrator |
| Heritage Resources | Guidelines 2.1(b) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.<br>Accumulation of sufficient snow over archaeological deposits or historic features to prevent surface and subsurface impacts. Undertaking activities may be implemented over snow cover on historic properties under the following conditions:<br>(1) The cover must have at least 12 inches depth of compacted snow or ice throughout the duration of | District Archaeologist, layout/Contract Specialist, and Sale Administrator |

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| | undertaking activities on sites.<br>(2) All concentrated work areas (e.g., landings, skid trails, turnarounds, and processing equipment sites) shall be located prior to snow accumulation and outside historic property boundaries. | |
| Heritage Resources | Guidelines 2.1(c) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.<br>Placement of foreign, non-archaeological material (e.g., padding or filter cloth) within transportation corridors (e.g., designated roads or trails, campground loops, boat ramps, etc.) over archaeological deposits or historic features to prevent surface and subsurface impacts caused by vehicles or equipment. Such foreign material may be utilized on historic properties under the following conditions:<br>(1) Engineering will design the foreign material depth to acceptable professional standards;<br>(2) Engineering will design the foreign material use to assure that there will be no surface or subsurface impacts to archaeological deposits or historic features;<br>(3) The foreign material must be easily distinguished from underlying archaeological deposits or historic features;<br>(4) The remainder of the archaeological site or historic feature is to be avoided, and traffic is to be clearly routed across the foreign fill material;<br>(5) The foreign material must be removable should research or other heritage need require access to the archaeological deposit or historic feature at a later date; and<br>(6) Indian tribe or other public concerns about the use of the foreign material will be addressed prior to use. | District Archaeologist, Layout/Contract Specialist, and Sale Administrator |
| Heritage Resources | Guidelines 2.2(a) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.<br>Felling and removal of hazard, salvage, and other trees within historic properties under the following conditions:<br>(1) Trees may be limbed or topped to prevent soil gouging during felling;<br>(2) Felled trees may be removed using only the following techniques: hand bucking, including use of chain saws, and hand carrying, rubber tired loader, crane/self-loader, helicopter, or other non-disturbing, HPM-approved methods;<br>(3) Equipment operators shall be briefed on the need to reduce ground disturbances (e.g., minimizing turns);<br>(4) No skidding nor tracked equipment shall be allowed within historic property boundaries; and<br>(5) Where monitoring is a condition of approval, its requirements or scheduling procedures should be included in | District Archaeologist, Layout/Contract Specialist, and Sale Administrator |

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| | the written approval. | |
| Heritage Resources | Guidelines 2.2(b) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.<br>For fire, and hazardous fuels and vegetation management projects, HPM/DHPS, in conjunction with fuels, vegetation management, or fire specialists as necessary, shall develop treatment measures for *at risk* historic properties (as defined in SHPO approved Region 5 modules and agreements) designed to eliminate or reduce potential adverse effects to the extent practicable by utilizing methods that minimize surface disturbance, and/or by planning project activities in previously disturbed areas or areas lacking cultural features.<br>(1) The following standard protection measures apply to fire, hazardous fuels, and vegetation management projects:<br>(I) Mechanically treated (crushed/cut) brush or downed woody material may be removed from historic properties by hand, through the use of off-site equipment, or by rubber-tired equipment approved by HPMs or qualified Heritage Program staff. Ground disturbance shall be minimized to the extent practicable during such removals.<br>(J) Woody material may be chipped within the boundaries of historic properties so long as the staging of chipping equipment on-site does not affect historic properties and staging areas are specifically approved by HPMs or qualified Heritage Program staff.<br>(K) HPMs shall approve the use of tracked equipment to remove brush or woody material from within specifically identified areas of site boundaries under prescribed measures designed to prevent or minimize effects. Vegetative or other protective padding may be used in conjunction with HPM authorization of certain equipment types within site boundaries. | District Archaeologist, Layout/Contract Specialist, and Sale Administrator |
| Heritage Resources | Logging Camps: Proposed logging camps and other staging areas need to be agreed upon with the District Archaeologist prior to use. | District Archaeologist, Layout/Contract Specialist, and Sale Administrator |
| Lands | Protect land survey signs and monuments, even if burned, or laying on the ground. | Layout/Contract Specialist, Fuels Specialist, Sale Administrator, and Public Service Officer |
| Rare Plants - Conservation | BOTANY CONTROLLED AREAS (CAs) have been established for the protection of rare plants.<br>• NO HEAVY EQUIPMENT or other vehicles allowed on the ground within CAs -- equipment reaching into a CA to retrieve logs, or pulling logs out of a CA, or similar, is ok;<br>• NO BURN PILES – do lop-and-scatter within CAs, but remove as much slash as practical to burn piles outside | Botanist, Project Implementation Teams, Contract Administrators |

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| | of CAs;<br>• No herbicide use; no site prep, planting, or timber stand maintenance;<br>• Minimize goat browsing and livestock grazing.<br><br>ADDITIONAL CONSIDERATIONS for CLUSTERED LADY'S-SLIPPER:<br>• Prior to any underburning through these Controlled Areas crews should remove as much coarse woody debris as possible from within 5 ft of all lady's-slipper plants (this can usually be accomplished by the botany crew while refreshing CA flagging). | |
| Rare Plants - Conservation | BOTANY CONTROLLED AREAS will be shown on the project implementation maps and be flagged on the ground by red-and-black-stripe and blue-and-black-stripe flagging always tied together.<br>• Contact the District Botanist prior to project implementation to ensure that flagging is in place and refreshed as necessary. | Botanist, Implementation Team, and Contract Administrator |
| Rare Plants - Conservation | No herbicide use is allowed within 50 ft of any rare plants regardless of whether the rare plants are included within a botany Controlled Area. | Botanist, Implementation Team, and Contract Administrators |
| Non-native Invasive Plants (NNIP) - Prevention | Ensure that all plant material and fill material used for erosion control and/or road maintenance is free of NNIP, including straw, mulch, gravel, and rock (*certified weed-free*). | Botanist, Implementation Team, and Contract Administrator |
| Non-native Invasive Plants (NNIP) - Prevention | Clean all off-road equipment entering the project area if it may be coming from areas infested with nonnative invasive plants (NNIP). | Botanist, Fuels Officer, Project Implementation Teams, Contract Administrators |
| Non-native Invasive Plants (NNIP) - Prevention | To the greatest extent feasible keep all equipment, vehicles, and supplies out of areas of known NNIP infestations, including any NNIP infestations along access routes and new infestations that may be discovered during project implementation. NNIP infestations may sometimes be flagged with bright orange "noxious weed" flagging.<br>• Any equipment, vehicles, and supplies that come in contact with NNIP infestations (plants or the ground close to them) during project implementation should be thoroughly cleaned of dirt, mud, and plant debris before entering any un-infested project area.<br>• Hand cutting of broom plants and placement of burn piles on top of NNIP infestations is encouraged.<br>• New infestations should be mapped and reported to the District Botanist. | Botanist, Fuels Officer, Project Implementation Teams, Contract Administrators |
| Non-native Invasive Plants (NNIP) - Prevention | Members of the project implementation teams (layout crew, contract administrator, etc.) should watch for and be able to recognize NNIP.<br>• As time allows, pull some or all of NNIP encountered during project activities (avoiding Archaeology controlled areas). | Botanist, Project Implementation Teams, Contract Administrators |

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| | • New infestations should be mapped and reported to the District Botanist and flagged and avoided. | |
| Non-native Invasive Plants (NNIP) - Prevention | Monitor areas of project related ground disturbance (e.g. skid trails, temp roads, landings, trails, etc.) for NNIP for up to 10 years following implementation of each project activity.<br>• As funding becomes available, new and old infestations of NNIP should be pulled or otherwise treated.<br>• New infestations should be mapped and reported to the District Botanist. | Botanist and Implementation Team |
| Recreation and Public Use | Provide for public safety and education by posting signs to inform public of project activities. Whenever possible, post notices on PNF website prior to treatments. Keep information current. | Layout/Contract Specialist, Fuels Specialist, Sale Administrator, and Recreation Specialist |
| Recreation and Public Use | If any barriers (including boulders or natural materials) or improvements are damaged or removed during activities, they must be replaced and re-installed in the same location and manner immediately following vegetation management operations. | Layout/Contract Specialist, Fuels Specialist and Recreation Specialist |
| Recreation and Public Use | Keep open all roads that access private property and the Plumas National Forest except for brief closures for public safety. | Layout/Contract Specialist, Sale Administrator, and Public Service Officer |
| Recreation and Public Use | Skid trails shall be located as far from designated road as possible, preferably 200 feet or more, and treated to prevent post-harvest use by any off-highway vehicle. This may be by slash scatter, water barring, or other method agreed to by the Recreation Specialist. The access point shall be closed in a manner that is effective to keep OHV use from occurring. | Layout/Contract Specialist, Fuels Specialist, Sale Administrator, and Public Services Officer |
| Recreation and Public Use | New landings shall be effectively closed and decommissioned. | Layout/Contract Specialist, Sale Administrator, and Public Service Officer |
| Recreation and Public Use | All landing expansion shall be away from roads. Landings should be 200 feet or more off roads, unless otherwise agreed upon with Public Services Officer. Any openings in the immediate foreground should be limited to one quarter acre in size. | Layout/Contract Specialist, Sale Administrator, and Recreation Officer |
| Recreation and Public Use | Barricade, with local and natural material, all skid trails that directly intersect a forest road or trail. This is to deter off-road and unapproved use of skid trails for motorized vehicles. | Layout/Contract Specialist, Sale Administrator, and Public Services Officer |
| Recreation and Public Use | Ensure that roads closed to the public, (i.e. previously decommissioned roads or trails and temp roads), and utilized during project implementation, will be closed upon completing of project activities. | Layout/Contract Specialist, Sale Administrator, and Public Services Officer |
| Scenery Resources | For Partial Retention Roads, slash that is located further than 150 feet from the road should be lopped and scattered to a minimum depth of 18 inches.<br>If tree boles are left within the Partial Retention zones, the | Layout/Contract Specialist and Sale Administrator |

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| | tree boles shall be distributed on the ground (not decked) and slash lopped and scattered. | |
| Scenery Resources | Retention and protection for vegetative diversity should be considered. Roadside "character" trees may be candidates for hazard trees but their landscape value should be considered. For Retention areas along roads, trees where hazard tree "rating" is not 3 or 4, consult Public Services Officer. | Layout/Contract Specialist, Marking Crew and Public Services Officer |
| Silviculture | 1. Use the "Hazard Tree Guidelines for Forest Service Facilities and Roads in the Pacific Southwest Region", April 2012 (Report # RO-12-01) for hazard tree determination | Sale Prep Forester, Contract Specialist and Sale Administrator |
| Silviculture | Protection of specially-identified trees. They are usually identified with various types of metal, wood, or plastic tags or signs.<br>1. Location, survey marker, or bearing trees.<br>2. Proven rust resistant sugar pine trees.<br>3. Genetically superior tree of any species. | Contract Specialist and Sale Administrator |
| Silviculture | Hand Cutting, Piling, and Burning.<br>1. Leaner's/Hang-ups - No contractor created slash shall be left suspended by, or lean against, a leave tree; whether it is dead or alive.<br>2. Lopping and Scattering: Slash shall be lopped and scattered away from the bole of residual leave trees so that it lies outside of the drip line.<br>3. Piling and burning: Piles shall be placed away from residual leave trees to avoid being scorched during burning. Piles cannot be located on or against stumps and logs. | Contract Specialist and Sale Administrator |
| Fire and Fuels | Activity Generated Slash adjacent to FS roads. Pile all activity generated slash 100' depth of project area, and covered with waterproof covering for burning during winter months.<br>Piling and Burning Landings: Landings created for optimal winter weather burning. Waterproof covering on multiple locations of pile.<br>Landing Temp Roads: Landings created for burning need to have roads accessible for fire engine access during ignition and monitoring phases.<br>Landing Placement: Landing can scorch and burn live trees 50-100 feet in distance.<br>Landing Fire Lines: 6-10 foot fire line created around each landing. | Contract Specialist, Sale Administrator, and Fuels Implementation Team |
| Transportation System, Road Maintenance and Safety | Protect all improvements along roadways including road surface, signs, ditches, and drainage structures. | Maintenance Engineer, Contract Specialist, Sale Administrator |
| Transportation System, Road Maintenance and Safety | Maintain haul roads before, during, and after use. Place emphasis on post haul maintenance of road surface, and the surface drainage crossings to reduce erosion potential. Clean all activity debris from ditches and culvert inlets. Use Timber Sale contract road maintenance specifications T-802 | Maintenance Engineer, Contract Specialist, Sale Administrator and Fuels Implementation Team |

Table A. Management requirements to reduce or prevent adverse effects by Mooreville Ridge Project. 

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| | Ditch Cleaning, T-803 Surface Blading, T-805 Drainage Structures, and T-809 Waterbars (or something comparable for service or stewardship contracts). | |
| Watershed, Soils and Aquatic Resources | Implementation buffers for hydrologic features. See table below. | Planning Forester, Prep Forester, Sale Administrator, and Hydrologist |

**Allowable treatment within RCAs by treatment type**

| Stream Type | Equipment Exclusion Zone (EEZ) for Mechanical Thinning, Roadside Hazard Tree Removal, and Grapple Pile | | Mastication | Underburn[1] | Hand Cut[2] | Minimum Distance to Burn Piles |
|---|---|---|---|---|---|---|
| | Slope <35% | Slope >35% | | | | |
| Perennial streams | 100 feet | Excluded | 50 feet | 150 feet | No buffer | 25 feet |
| Intermittent streams | 82 feet | Excluded | 50 feet | 150 feet | No buffer | 25 feet |
| Ephemeral streams | 25 feet | Excluded | 25 feet | 150 feet | No buffer | 25 feet |
| Special Aquatic Features (Reservoirs, wetlands, fens, and springs) | 100 feet | Excluded | 50 feet | 150 feet | Perimeter | 25 feet |
| Riparian Features: dry meadows, seasonal wetlands | 0 to 25[3] feet | Excluded | 25 feet | 150 feet | Perimeter | 25 feet |

1. Prescribed burning would be allowed within RCAs, but there would be no ignitions in riparian vegetation. Fire may back through this zone.
2.May hand cut within RCA feature but don't cut riparian vegetation. Don't cut vegetation that provides stream bank stabilization. Adhere to the minimum distance for burn piles. No hand cutting within special aquatic features and riparian features unless marked by hydrologist and/or biologist.
3. Meadows may have no buffer to a 25 ft. buffer depending on the individual meadow. Buffers may vary due to the condition of the meadow (i.e. meadow is encroached with trees).

| | | |
|---|---|---|
| Watershed and Soils | Roadside Hazard trees within the equipment exclusion zone (EEZ) will be felled to mitigate the hazard. They will be felled away from the channel and other aquatic features to minimize disturbance of riparian vegetation. Hazard trees felled within the EEZ may not be removed. But the portion of the felled tree that lies outside of the EEZ may be cut and taken away. | Planning Forester, Prep Forester, Sale Administrator, and Hydrologist |
| Watershed and Soils | Erosion Hazard Rating (EHR) for the project is low therefore the percent effective soil cover post implementation should be 50 percent or more.<br>If effective soil cover is not met than slash can be scattered in bare areas to increase soil cover. If slash is not available then weed free straw can be applied. The spread of weed free straw needs to be at a minimum of ½ inch thick. | Planning Forester, Prep Forester, Sale Administrator, and Hydrologist |

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| Watershed and Soils | To reduce ground disturbance created by equipment within RCAs, vary the routes the equipment uses and minimize turning of equipment.<br>Do not skid parallel within to the stream within RCA. | Planning Forester, Prep Forester, Sale Administrator, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Lop and scatter broken tops and limbs throughout the project boundary to increase the effective soil cover. Minimize the amount of slash that goes to landings instead use material for effective soil cover. Concentrate effort on steeper slopes and areas along the riparian corridor.<br>Effective soil cover could include organic surface materials (> ½ inches thick), woody material in contact with the soil (> ¼ inches thick in diameter), living vegetation, and rock fragments (> ¾ inches thick). | Planning Forester, Prep Forester, Sale Administrator, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | No new landings or roads will be located within RCAs. Consult with a hydrologist before using an existing skid trail, landing, or road located within an RCA. | Planning Forester, Prep Forester, Sale Administrator, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Designated skid trails crossing on ephemeral stream channels may be approved for access to otherwise inaccessible areas, but only upon consultation with a hydrologist. | Planning Forester, Prep Forester, Sale Administrator, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Place rock on roads at stream crossings and segments within identified RCAs to reduce the impact of sediment delivery to associated stream courses. Place rock, slash, or certified NNIP free mulch at the outlets of rolling dips and/or waterbars to dissipate water where identified by road engineer and soil scientist, and/or hydrologist. | Planning Forester, Prep Forester, Sale Administrator, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Water Source Use: Water sources shall be approved prior to use. | Prep Forester, Sale Administrator, Road Maintenance Engineer, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Water Source Use: Each load of water drafted shall be documented in terms of gallons per project per truck per day and a written report provided to the Public Services Officer every two weeks. | Prep Forester, Sale Administrator, Road Maintenance Engineer, Public Services Officer |
| Watershed, Soils, and Aquatic Resources | Water Source Use: Armor road approaches as necessary from the end of the approach nearest a stream for a minimum of 50 feet, or to the nearest drainage structure. | Prep Forester, Sale Administrator, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Water Source Use: Where overflow runoff from water trucks or storage tanks may enter the stream, effective erosion control devices shall be installed. | Prep Forester, Sale Administrator, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Water Source Use: All water-drafting vehicles shall be checked routinely and shall be repaired as necessary to prevent leaks of petroleum products from entering RCAs. | Prep Forester, Sale Administrator, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Water Source Use: Water-drafting vehicles shall contain petroleum spill kits. Dispose of absorbent pads according to the Hazardous Response Plan. | Prep Forester, Sale Administrator, and Hydrologist |
| Watershed, Soils, and Aquatic | Water Source Use: Survey all proposed drafting locations for sensitive and listed amphibians and receive approval from a | Planning Forester, Prep Forester, Sale |

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| Resources | biologist prior to use. Use drafting devices with 2-mm or less screening and place hose intake into bucket in the deepest part of the pool. Use a low velocity water pump and do not pump ponds to low levels beyond which they cannot recover quickly (approximately one hour).<br>If a sensitive or listed amphibian is sighted within the project area, cease operations in the sighting area, and inform a Forest Service aquatic biologist of the sighting immediately. | Administrator, Aquatic Biologist and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Limit tractor skidding to less than 35 percent slopes unless a watershed specialist evaluates operations on the steeper slopes. Tractor skidding may occur on slopes greater than 35 percent only in short pitches less than 200 feet in distance. Where skidding occurs on slopes greater than 15 percent and effective soil cover off of skid trails is less than 50 percent, scatter slash on skid trails to achieve at least 50 percent effective soil cover.<br>Effective soil cover could include organic surface materials (> ½ inches thick), woody material in contact with the soil (> ¼ inches thick in diameter), living vegetation, and rock fragments (> ¾ inches thick). Use of weed free straw, wood chips, or mulch may be used where on-site material is insufficient. | Planning Forester, Prep Forester, Sale Administrator, Soil Scientist, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | When possible, use existing skid trails and landings except where this could cause unacceptable resource damage. Limit new and existing skid trails, temp roads, and landings to less than 15 percent of the unit area. Space skid trails at least 75 feet apart. | Planning Forester, Prep Forester, Sale Administrator, Soil Scientist, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Allow mechanical operations only when soil moisture conditions are such that compaction, gullying, and/or rutting will be minimal. Conduct ground based harvest operations when soil is dry; that is, in the spring when soil moisture in the upper 8 inches is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand is tapped. In the summer and early fall after storm event(s) when soil moisture between 2-8 inches in depth is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand is tapped. Off of designated skid trails, limit all equipment passes over the same piece of ground to reduce the potential for adverse soil compaction. | Sale Administrator, COR, Soil Scientist, and Hydrologist |
| Watershed, Soils, and Aquatic Resources | Temporary roads: Following temporary road use, remove culverts, eliminate ditches, out-slope roadbed, remove ruts and berms, effectively block the road to normal vehicular traffic where feasible under existing terrain conditions, and build cross ditches and water bars.<br>Subsoil all temporary roads and add effective soil cover to bare soil.<br>Add 100 feet of on effective soil cover on both sides of a perennial stream and 75 feet on seasonally flowing streams.<br>Effective soil cover could include organic surface materials (> ½ inches thick), woody material in contact with the soil (> | Planning Forester, Prep Forester, Sale Administrator, Soil Scientist, and Hydrologist |

<table>
<tr><th>Potential Affected Resource(s)</th><th>Management Requirements Designed to Reduce or Prevent Adverse Effects</th><th>Responsible Person(s)</th></tr>
<tr><td></td><td>¼ inches thick in diameter), living vegetation, and rock fragments (> ¾ inches thick). Use of weed free straw, wood chips, or mulch may be used where on-site material is insufficient.</td><td></td></tr>
<tr><td>Watershed, Soils, and Aquatic Resources</td><td>Log Landings: re-use log landings to the extent feasible. Limit new landings to ¼ to ½ acre in size.</td><td>Prep Forester, Sale Administrator, Soil Scientist, and Hydrologist</td></tr>
<tr><td>Watershed, Soils, and Aquatic Resources</td><td>Recommended spacing for cross drainage spacing on skid trail and temporary roads:<br>Slope Gradient Cross Drain Spacing<br>1-6% 250’<br>7-9% 150’<br>10-14% 125’<br>15-20% 60’<br>21-40% 30’</td><td>Sale Administrator, Soil Scientist, Hydrologist,</td></tr>
<tr><td>Watershed, Soils, and Aquatic Resources</td><td>To reduce the potential for adverse cumulative watershed effects, implement state certified Best Management Practices (BMPs). Site specific BMPs applicable to this project (located in project record file) include BMP 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.19, 1.20, 1.21, 2.2, 2.3, 2.4, 2.5, 2.6, 2.8, 2.11, 5.1, 5.2, 5.4, and 5.6.</td><td>Planning Forester, Prep Forester, Sale Administrator, and Hydrologist</td></tr>
<tr><td>Wildlife<br>Home Range Core Area (HRCA)</td><td>In HRCAs retain 50 percent canopy cover (SNFPA FSEI ROD 2004). Canopy cover many not be reduced more than 30 percent of the current canopy (SNFPA FSEI ROD 2004 p.50).</td><td>Wildlife Biologist, Layout/Contract Specialist, Sale Administrator</td></tr>
<tr><td>Wildlife<br>Hardwoods</td><td>Retain all Black Oak and Madrone. Retain Tan Oak greater than 10 inches.</td><td>Wildlife Biologist, Layout/Contract Specialist, Sale Administrator</td></tr>
<tr><td>Wildlife<br>Canopy Cover Restrictions</td><td>No more than 30 percent of the current canopy within the treatment unit can be removed (SNFPA FSEI ROD 2004 p.50).</td><td>Wildlife Biologist, Layout/Contract Specialist, Sale Administrator</td></tr>
<tr><td>Wildlife<br>Hazard Trees</td><td>Hazard trees in PACs along gravel or dirt roads where you find less vehicle travel removal of hazard trees would be of a High failure impact 3-4- point serious defect.
<table>
<tr><td>0 Points</td><td>No Defects Identified</td><td>None</td></tr>
<tr><td>1 Point</td><td>Low potential for failure</td><td>Minor Defects</td></tr>
<tr><td>2 Points</td><td>Medium potential for failure</td><td>Moderate Defects</td></tr>
<tr><td>3 Points</td><td>High potential for failure</td><td>Serious Defects</td></tr>
<tr><td>4 points</td><td>Dead Tree</td><td>Dead Tree</td></tr>
</table></td><td>Wildlife Biologist, Layout/Contract Specialist, Sale Administrator, and Fuels Implementation Team</td></tr>
<tr><td>Wildlife<br>Snags</td><td>Sustain a continuous supply of snags and live decadent tress suitable for cavity nesting wildlife across the landscape.</td><td>Wildlife Biologist, Layout/Contract</td></tr>
</table>

| Potential Affected Resource(s) | Management Requirements Designed to Reduce or Prevent Adverse Effects | Responsible Person(s) |
|---|---|---|
| | Retain at least 4 of the largest snags per acre (SNFPA FSEI ROD 2004 p.51). | Specialist, Sale Administrator, and Fuels Implementation Team |
| Wildlife Trees | During marking, retain suspected or known wildlife-inhabited trees (e.g. nest trees, roosts, etc.), unless they pose an imminent safety hazard that cannot be mitigated through other means; if removal is necessary coordinate with the wildlife biologist.<br>Consideration would be given to mid- and large diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) should be retained to serve as future replacement snags and to provide nesting structure. | Wildlife Biologist, Layout/Contract Specialist, Sale Administrator, and Fuels Implementation Team |
| Wildlife Landings | To reduce effects to the Northern goshawk and their habitat:<br>Use existing landings or natural openings with minimal exceptions avoid landings when working within PACs. A good faith attempt should be made to contact the wildlife biologist when landings would occur in a PAC. **If not practical notify the biologist** as soon as feasible. Landings within a PAC are prohibited when other options are available (e.g. construction of a landing across the road outside of the PAC). When landings do occur in PACs they should be in the areas with the least amount of large trees. | Wildlife Biologist, Layout/Contract Specialist, Sale Administrator, and Fuels Implementation Team |
| Units that Border California Spotted Owl or Northern Goshawk PACs | Stay within the unit all units particularly units that border PACs. Unit 3 and 4 border a California spotted owl PAC. | Wildlife Biologist, Contract Specialist, Sale Administrator, and Fuels Implementation Team |
| Wildlife Northern Goshawk Limiting Operating Period (LOP) | LOP for Northern Goshawk March 1- September 15.<br>**Limiting Operation Period**<br>**A LOP for Units 3, 4, 6 and 12 unless using modification as described below.** | Wildlife Biologist, Contract Specialist, Sale Administrator, and Fuels Implementation Team |
| Modification Northern Goshawk Limiting Operating Period (LOP). | The LOP for the Northern Goshawk PAC can shift from the required ¼ mile buffer to a 500-foot buffer around a known nest (site most recently found). The use of the 500-foot (SNFPA ROD 2004) buffer is contingent upon: the projects completion within the next 3 years 2020-2023 otherwise surveys must reestablish the nest location or LOP applies to the unit. | Wildlife Biologist, Contract Specialist, Sale Administrator, and Fuels Implementation Team |
| Wildlife California Spotted Owl Limiting Operating Period (LOP). | At this time no LOP is required for the California spotted owl (March 1 – August 15). | Wildlife Biologist, Contract Specialist, Sale Administrator, and Fuels Implementation Team |
| Wildlife | Incidental detections of federally-listed and sensitive species prior to or during project implementation will be reported to the District Wildlife Biologist for protection in accordance with management direction for the Plumas National Forest. | Wildlife Biologist, Contract Specialist, Sale Administrator, and Fuels Implementation Team |

Table A. Management requirements to reduce or prevent adverse effects by Mooreville Ridge Project. 